



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/405,237

09/23/1999

JOHN K. RENWICK

IBN-0014

9267

24739

7590

05/02/2006

CENTRAL COAST PATENT AGENCY
PO BOX 187
AROMAS, CA 95004

EXAMINER

PHILPOTT, JUSTIN M

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

54

Office Action Summary	Application No. 09/405,237	Applicant(s) RENWICK ET AL.	
	Examiner Justin M. Philpott	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31, 33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31, 33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed February 2, 2006 have been fully considered but they are not persuasive.
2. Specifically, applicant argues that applicant's claims should be allowed because Cao does not specifically disclose "each subnetwork node is connected by one or more physical parallel links" as recited in the newly amended claims 31 and 34. However, this additional limitation in applicant's claims is well known in the art of label switching. Specifically, the newly cited art of McAllister teaches this limitation as discussed in the following office action. Accordingly, applicant's argument that applicant's claims should be allowed is not persuasive.
3. Additionally, for clarification of the record, it should be noted that applicant's amendment to claim 34 improperly removes limitations from the preamble and places a slight variation of them into the body of the claim without indicating their removal. Specifically, the newly added limitations are properly underlined (at page 3, lines 1-3), but the previously recited limitation in the preamble has been removed from the claim by applicant without any indication of its removal. (See claim 34 in "Response F" filed October 13, 2005; and compare with claim 34 in Response G, filed February 2, 2006). For the purpose of examining the claims in applicant's most recent response (Response G), Examiner understands claim 34 to be amended to remove limitations from the preamble, and the claim 34 as provided in Response G is examined in the following office action.

Claim Objections

4. Claims 31 and 33 are objected to because of the following informalities: “routing packets through while ensuring” (claim 31, lines 3-4) should be changed to “routing packets while ensuring”; and “step (a)” (claim 33, line 1) should be changed to “step (b)”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,721,269 by Cao et al. in view of U.S. Patent No. 6,697,329 by McAllister et al.

Regarding claim 31, Cao teaches in a data-packet network, a method for routing packets (e.g., see abstract) while ensuring in-order delivery for unique packet flow defined by unique source/destination pairs, comprising the steps of: (a) providing a label-switching sub-network (e.g., see col. 5, line 7 – col. 9, line 5) having one ingress node (e.g., LSRS, see FIG. 1) and one egress node (e.g., LSRE) (e.g., see also col. 8, lines 37-41) and at least two nodes (e.g., LSRA and LSRC) internal to the sub-network for routing packets; (b) creating a sufficient number of label-switched paths (LSPs) (e.g., S-A-B-E and S-C-D-E, see col. 6, lines 1-23) from the ingress node (e.g., LSRS) to the egress node (e.g., LSRE) such that each packet flow has a unique LSP (e.g., see col. 6, lines 16-23; and col. 8, lines 37-41); and (c) associating each packet flow with

Art Unit: 2616

one of the created LSPs (e.g., see col. 10, line 1 – col. 11, line 15 regarding primary ERLSP, S-A-B-E, comprising a selected flow, and a secondary or backup ERLSP comprising a protected/backup/secondary flow).

Furthermore, Cao teaches the number of LSPs created (e.g., two, S-A-B-E and S-C-D-E, see col. 6, lines 5-10) is equal to the least-common multiple of the number of links between each individual internal sub-network node in the node path (e.g., two, wherein each of nodes in node paths in FIG. 1 include at least two links, noting that LSRF is not included in node path).

Additionally, Cao teaches the number of links between nodes are not always equal (e.g., see col. 2, lines 48-67 regarding extending the general teachings of, e.g., FIG. 1, “to include a plurality of primary paths, with one or more secondary paths for each of the primary paths”; also see col. 11, lines 16-43 regarding Cao teaching the invention is not limited to the embodiment, e.g., of FIG. 1, “which does not limit the invention to the precise forms disclosed”, such as equal number of links; also, note that nowhere does Cao disclose requiring the number of links between nodes to be equal). However, in the alternative, if the limitation of “the number of links between nodes are not always equal” is not inherently found in Cao, it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on Appellant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Thus, at the time of

Art Unit: 2616

the invention it would have been obvious to one of ordinary skill in the art to include a greater or fewer number of links between the various nodes of Cao since it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value.

However, Cao may not specifically disclose each sub-network node is connected by one or more physical parallel links.

McAllister, like Cao, also teaches a method for routing packets in a data network (e.g., see abstract). Further, McAllister recognizes problems in prior art label switching (e.g., see col. 3, lines 23-25) and teaches a specific method that includes sub-network nodes connected by one or more physical parallel links (e.g., see col. 10, lines 31-45 regarding “parallel links” being utilized when a link experiences a failure). Additionally, the teachings of McAllister provide disruption avoidance upon experiencing a network failure, ensure that the network operates efficiently, and improved security and congestion avoidance by accommodating operator control of network connection distribution (e.g., see col. 5, lines 29-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the label switching routing method improvements taught by McAllister to the label switching routing method of Cao in order to provide disruption avoidance upon experiencing a network failure, ensure that the network operates efficiently, and improved security and congestion avoidance by accommodating operator control of network connection distribution (e.g., see McAllister at col. 5, lines 29-52).

Regarding claim 33, Cao teaches adding a mask value (e.g., mask value 304, see col. 9, lines 14-19 and prior art FIG. 2) to a label value in the process of setting up an LSP may be

Art Unit: 2616

implemented, and further, Cao teaches the LSPs are all created in response to a single signal (e.g., Label Request Message) sent from the ingress node (e.g., see col. 5, line 7 – col. 8, line 56).

Regarding claim 34, Cao teaches a routing system in a data-packet network comprising: a label-switching sub-network (e.g., see col. 5, line 7 – col. 9, line 5) with one ingress node (e.g., LSRS, see FIG. 1) and one egress node (e.g., LSRE) (e.g., see also col. 8, lines 37-41), with at least two nodes (e.g., LSRA and LSRC) internal to the sub-network; a mechanism (e.g., system of FIG. 1, see col. 5, lines 7-25) for creating a sufficient number of label-switched paths (LSPs) (e.g., S-A-B-E and S-C-D-E, see col. 6, lines 1-23) from the ingress node (e.g., LSRS) to the egress node (e.g., LSRE) such that each packet flow has a unique LSP (e.g., see col. 6, lines 16-23; and col. 8, lines 37-41); and a mechanism (e.g., label information base table, see col. 10, line 1 – col. 11, line 15) for associating each packet flow with one of the created LSPs (e.g., see col. 10, line 1 – col. 11, line 15 regarding primary ERLSP, S-A-B-E, comprising a selected flow, and a secondary or backup ERLSP comprising a protected/backup/secondary flow); characterized in that the number of LSPs created (e.g., two, S-A-B-E and S-C-D-E, see col. 6, lines 5-10) is equal to the least-common multiple of the number of links between each individual internal sub-network node in the node path (e.g., two, wherein each of nodes in node paths in FIG. 1 include at least two links, noting that LSRE is not included in node path). Additionally, Cao teaches the number of links between nodes are not always equal (e.g., see col. 2, lines 48-67 regarding extending the general teachings of, e.g., FIG. 1, “to include a plurality of primary paths, with one or more secondary paths for each of the primary paths”; also see col. 11, lines 16-43 regarding Cao teaching the invention is not limited to the embodiment, e.g., of FIG. 1, “which does not limit the invention to the precise forms disclosed”, such as equal number of links; also, note that

Art Unit: 2616

nowhere does Cao disclose requiring the number of links between nodes to be equal). However, in the alternative, if the limitation of “the number of links between nodes are not always equal” is not inherently found in Cao, it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on Appellant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include a greater or fewer number of links between the various nodes of Cao since it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value.

However, Cao may not specifically disclose each sub-network node is connected by one or more physical parallel links.

As discussed above, McAllister, like Cao, also teaches a method for routing packets in a data network (e.g., see abstract). Further, McAllister recognizes problems in prior art label switching (e.g., see col. 3, lines 23-25) and teaches a specific method that includes sub-network nodes connected by one or more physical parallel links (e.g., see col. 10, lines 31-45 regarding “parallel links” being utilized when a link experiences a failure). Additionally, the teachings of McAllister provide disruption avoidance upon experiencing a network failure, ensure that the

Art Unit: 2616

network operates efficiently, and improved security and congestion avoidance by accommodating operator control of network connection distribution (e.g., see col. 5, lines 29-52). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the label switching routing method improvements taught by McAllister to the label switching routing method of Cao in order to provide disruption avoidance upon experiencing a network failure, ensure that the network operates efficiently, and improved security and congestion avoidance by accommodating operator control of network connection distribution (e.g., see McAllister at col. 5, lines 29-52).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Art Unit: 2616

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571.272.3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin M Philpott


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2616 4/17/06